

Materials Computation Center, University of Illinois

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Summer School on Theoretical and Computational Biophysics

Support from co-PI: David Ceperley, NSF (CRCD) EE-0088101

Education and Outreach (2003)

Medical and biological sciences require modeling to understand life processes and measured data. Modeling molecular processes of biological cells is a craft and an art. Although theoretical and computational skills can be learned by training, *meaningful applications is achieved only with experience.*

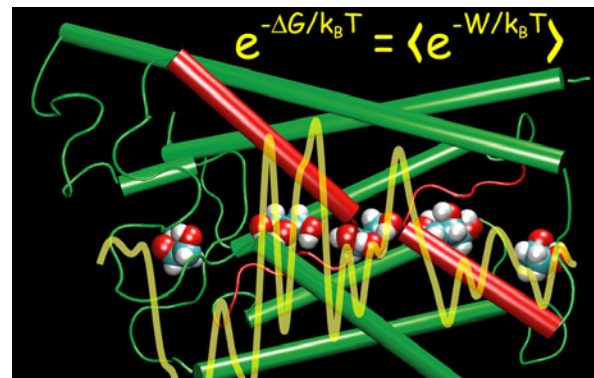
Our two-week Summer School on **Theoretical and Computational Biophysics** (organized by Klaus Schulten with eight other lecturers) taught the craft and art of modeling via *learning by doing*. Ninety-three participants came to Illinois to:

- stretch proteins
- pull water through molecular channels
- mine genomic data
- build their own computer cluster, and
- study a favorite biomolecule.

After morning lectures, afternoons were devoted to learning by doing, in laboratories humming with computational biology software, supported by 300 pages of tutorials.

Web-published lectures (including audio), notes, and labs, from contributing Lecturers may be found at www.mcc.uiuc.edu.

Co-support obtained from NIH by K. Schulten



Learning by doing: Participants simulate the thermodynamic structure and properties of proteins and bio-molecules (picture from K. Schulten).



Diverse participants: The two-week school was attended by 71 US-based and 22 international participants. There were 25 women and 68 men from 66 institutions, comprising 66 graduate students, 13 post-docs, seven faculty, and one undergraduate student.